SOME COMMON ERRORS IN ELEMENTARY ALGEBRA.*

(1) $$3(2x-4m)=6x-4m.$$

(2) (a) $$1^3=3,$$

(b) $$(-3)^2=-9.$$

(3) $$(x+a)^2=x^2+a^2.$$

(4) $$(a+x)(b+x)=ab+x^2.$$

(5) $$\frac{x^5-y^5}{x-y}=x^4+y^4.$$

(6) $$a(c+d)+b(c-d)=(a+b)(c+d)(c-d).$$

(7) $$a^3+b^3=(a+b)(a^2\pm 2ab+b^2).$$

(8) $$(a+b)^3=(a+b)(a^2-ab+b^2).$$

(9) $$\frac{x+a}{2y+a}=\frac{x}{2y}.$$

(10) $$\frac{2x+y}{2x+y}=0 \quad\text{and}\quad \frac{x-x}{2a}=\frac{1}{2a}.$$

(11) $$a+\frac{b}{c}=ac+b.$$

(12) $$\frac{a}{b}\times c=\frac{ac}{bc}.$$

(13) $$\frac{a}{b}-\frac{b-c}{b}=\frac{a-b-c}{b}$$

and

$$a-\frac{b-c+d}{e}=a-\frac{b}{e}-\frac{c}{e}+\frac{d}{e}.$$

(14) $$\frac{x-\frac{b}{c}}{d}=\frac{x-b}{cd}.$$

* See the report of the Philadelphia Section, page 73, of last issue.

(15) $$\frac{a}{a-b} = -\frac{a}{a+b}.$$

(16) $$\frac{x}{5} = 30 \quad \therefore x = 6.$$

(17) $$x = \tfrac{1}{2} \quad \therefore \frac{6}{x} = 3.$$

(18) $$ax = b, \ \therefore x = \frac{a}{b}.$$

(19) $$abx = c, \quad \therefore \ x = c - ab.$$

(20) $$\frac{x}{3} = a, \quad \therefore x = -3a.$$

(21) $$\frac{x-a}{b} = 0, \quad \therefore \ x - a = b.$$

(22) $$y = -1, \quad x - 3y = 8,$$
$$\therefore \ x - 3 = 8.$$

(23) $$\frac{x}{a} + \frac{y}{b} = 1, \quad bx + ay = 1.$$

(24) $x = 2, \quad 4x = 8x.$ (In proofs.)

(25)
$$\begin{array}{r} abx + cdy = a \\ abx + \quad y = d \\ \hline cdy - y = a - d \\ y = \dfrac{a-d}{cd} \end{array} \quad \text{or} \quad \begin{array}{r} abx + cdy = a \\ abx + \quad y = d \\ \hline cd = a - d \end{array}$$

(26) $$(a^2)^3 = a^5, \quad (a^2)^3 = a^8.$$

(27)
$$(a)\ a^{-3} = a^{\frac{1}{3}}, \quad (b)\ a^{\frac{1}{3}} = a^3, \quad (c)\ a^{\frac{1}{3}} = \frac{1}{a^3},$$
$$(d)\ 3a^{-2} = \frac{1}{3a^2}, \quad (e)\ 3^{-1} = \frac{1}{-3}, \quad (f)\ a^0 = a.$$

(28) $(a)\ \sqrt{\frac{x}{a}} = a\sqrt{ax}, \quad (b)\ \sqrt{45} = 5\sqrt{3}, \quad (c)\ \frac{1}{\frac{2}{3}\sqrt{3}} = \frac{3}{2}\sqrt{3}.$

(29)
(a) $(\sqrt{3x-1}-2)^2=3x-1\pm 4$,
(b) $2\sqrt{a+b}=5$, $\therefore\ 2(a+b)=25$,
(c) $\sqrt{x}=4$, $\therefore\ x=2$.

(30) $ax^2+bx=c$, $x(ax+b)=c$, $x=\dfrac{c}{ax+b}$.

(31) $x^2-5x=0$, $x-5=0$, $x=5$ and $x^2-4x+4=25$.

(32) $x(x-4)=3$, $\therefore\ x=3$, $x-4=0$, $x-2=5$.

"How may we expect to develop individualism by our present system? We do not do so. It is a fact that individualism exists, but it is in spite of our school system, and not because of it. What opportunity do we give our children to learn of the beautiful in life when we house them in jail-like structures? How are we developing manhood when we keep boys cooped up like animals and treat them almost like criminals? We want to give them a chance to work hard and to play hard, to give knocks and to take knocks, to get some of the discipline of life at the very beginning, so that it will not fall upon them suddenly when they are totally unprepared.

"I suppose that Lord Cromer is accounted one of the most 'practical' men in the world. For thirty years he was the great British proconsul in Egypt, and he ruled the most ancient civilization of the world as it had never been ruled before. He took it when it was at its lowest ebb, and brought it to a state of prosperity never before equalled. The British nation has rightly honored and rewarded him. Because he has accomplished so much, we have naturally looked upon him as a sort of Bismarck or Clive, a man of 'blood and iron.' Yet in his book, recently published, he tells us how all this was accomplished without the drawing of a sword. He ruled and governed by mere force of character and through the inspiration of lofty ideals.

"It is deplorable that there is nothing in our public schools calculated to bring out such latent powers in our boys. Many grand men and women come out of our public schools, it is true, but small praise is due the schools for the result."—From "What is Wrong with Our Public Schools," by JOSEPH M. ROGERS, in February *Lippincott's*.